

**AUTOMATED LUNG NODULE SEGMENTATION USING DYNAMIC
PROGRAMMING AND EM BASED CLASSIFICATION**

ABSTRACT OF THE DISCLOSURE

5 There is provided a method for automatically
segmenting lung nodules in a three-dimensional (3D)
Computed Tomography (CT) volume dataset. An input is
received corresponding to a user-selected point near a
boundary of a nodule. A model is constructed of the nodule
10 from the user-selected point, the model being a deformable
circle having a set of parameters β that represent a shape
of the nodule. Continuous parts of the boundary and
discontinuities of the boundary are estimated until the set
of parameters β converges, using dynamic programming and
15 Expectation Maximization (EM). The nodule is segmented,
based on estimates of the continuous parts of the boundary
and the discontinuities of the boundary.